

MINED LAND RECLAMATION -- CHECKLIST

TITLE 40-8 UCA 1953
GENERAL RULES AND REGULATIONS
RULES OF PRACTICE AND PROCEDURE

Mineral Energy Inc.

MINE Dolor
ACT/ 019/015 COUNTY Grand
COMPANY REPRESENTATIVE Larry Perkins

MINE PLAN DATE _____
DATE RECEIVED 5/15/81
DOGM LEAD REVIEWER Hunt

CITATION	REGULATION	INCLUDED IN PLAN	ADEQUATE	COMMENTS
	LEGAL, FINANCIAL			
M-3/MR 1/1.	Name of Applicant _____			
M-3/MR 1/2.	Address Permanent _____ Temporary _____			
M-3/MR 1/3.	Company Representative Name _____ Title _____			
M-3/MR 1/4.	Address _____ Office Phone _____			
M-3/MR 1/5.	Location County _____ Township/Range/Section _____			
M-3/MR 1/6.	Name of Mine _____			
M-3/MR 1/7.	Mineral to be Mined _____			
M-3/MR 1/8.	Other Approvals/Listed ?			
M-3/MR 1/9.	Owners of Record of Land Affected _____			Has the applicant had a predesign? YES water rights?
M-3/MR 1/10.	Owners of Record of Minerals to be Mined			BLM registration?
M-3/MR 1/11.	Owners of Record of all Other Minerals	none		

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M-3/MR 1/11a.	Notification of Other Owners in Writing	YES NOTIFIED		Surface BUM/
M-3/MR 1/12.	Legal Right to Enter & Conduct Operations			Mining Lease
M-3/MR 1/13.	Acreage 1. Operation Area 2. Access Road or Haulways 3. Drainage System 4. Total Land Affected ?			15 acres 11.5 acres Have not addressed show 0 acres
M-3/MR 1/14.	Principal Executives, Officer & Partners Name Title Address			
M-3/MR 1/15.	Previous Notice of Intention Withdrawn			
M-3/MR 1/16.	Signed			
	<u>MAPS AND PLANS</u>			
M-3(1)	True Copy Map or Plat			
M(3)(1)(a)	Land Affected Delineation			
M(3)(1)(b)	Within Land Affected Existing Mine Areas Active Abandoned (prior to May, 1975) Boundaries of Surface Properties Names of Surface Owners Names of Mineral Owners			the campsite ⁴ should be included in the disturbed area to be reclaimed, is it included in the 16.5 acres. Map doesn't show property boundaries of LEASES

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M-2	"Land Affected means the surface and subsurface of an area within the state where mining operations are being or will be conducted, including, but not limited to: on-site private ways, roads, and railroad lines appurtenant to any such area; land excavations; exploration sites; drill sites or workings; refuse banks or spoil piles; evaporation or settling ponds; leaching dumps; placer areas; tailings ponds or dumps; work parking, storage, or waste discharge areas; areas in which structures, facilities, equipment, machines, tools or other materials or property which result from or are used in such operations, are situated. All lands shall be excluded that would be otherwise includable as land affected but which have been reclaimed in accordance with an approved plan or otherwise, as may be approved by the Board, and lands in which mining operations have ceased prior to July 1, 1977."			Location of lined ponds?
M-3(1)(c) M6	"All maps and plans prepared for submission with the Notice of Intention to Commence Mining Operations shall be of adequate			What is meant by scale 1/50" = 20.3 ft; 1" = 1015 ft.

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M-3(1)(c) M6 (continued)	scale and detail to show topographic features and clearly indicate details of the proposed operations in accordance with Rule M-3. A color code, or other legend, shall be used in preparing all maps to clearly indicate surface features of the land affected."			The applicant must submit a map of suitable scale (~1" = 200') to clearly indicate the details of the proposed operation. (a) base boundaries (b) legal boundaries 1/4 section lines etc. (c) surface drainage (m-3(1)(e)) showing directional flow (d) all facilities, trails, generators mill etc m-3(1)(d) (e) Sequence of mining ME2-11(a) (f) Topsoil stockpiles (g) any ponds or impoundments including diversions, drainageways culverts etc. (h) water diversion points (i) water discharge points (j) any stockpile areas for waste or tailings (m) any vegetation plot areas (n) Abandoned facilities
M-3(1)(d)	Names and Locations Lakes, Rivers, Streams, Creeks Roads, Buildings Active, Abandoned Facilities Transmissions Lines (within 500 feet)			
M-3(1)(e)	Drainage Plan Overburden, Topsoil, Waste Stockpiles Directional Flow ? Constructed Drainways, Diversions, Berms ? Receiving Waters			
M-3(1)(f)	Drill Holes Location Status Depths and Thickness Water Bearing Strata Mineral Deposits - ? Toxic Materials Revegetation Materials (topsoil)			
M-3(1)(g)	Locations of Disposal and Stockpile Areas Topsoil Storage none Overburden Materials Waste, Tailings, Rejected Materials Tailings-Ponds Discharge Points, Water Effluents			What materials will be used for revegetation, if processing soils? Will any of the solids be stockpiled after removal from ponds & before replacement.

Will the chemical solution be used in hydraulic mining
or in a separate process?

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CITATION	REGULATION	INCLUDED IN PLAN	ADEQUATE	COMMENTS
	<u>EFFLUENT CONTROL</u>			
M-10/11	Methods for Controlling Sediment			
M(3)(3)(11)	"Sediment Control--Mining operations shall be conducted in a manner such that sediment from areas disturbed in mining or reclamation activities is adequately controlled. The degree of sediment control shall be appropriate for the site-specific and regional conditions of topography, soil, drainage, water quality, or other characteristics."			Disturbed area drainage?
M-3(1)(h)	Description of Water to be Disposed Expected Acid or Salt Content Expected Toxicity Expected Impact on Downstream Waters Description of Discharge Permits			Total containment - See note on back
M-3(3)	<u>OPERATION PLAN/SITE CONSTRUCTION</u>			
M-3(3)/MR 1-7 MR 2-7	Mining Method General Details If Sedimentary Deposit Seam Thickness Dip Outcrop	<i>SURFACE PLACER EXCAVATE & BACKFILL</i>		How deep? the applicant must show indicate the depth of the deposit.
MR 2-11(1)	Mining Sequence			* 9-11 accs/yr The applicant should clarify the sequence of mining be providing a map - The Direction of mining and/or reclamation must be shown. (see back page 6)
MR 2-11(b)	Construction and Maintenance of Access Roads Procedures Cross-section Profile OK map.	The applicant must provide the Division with a typical map.		

LSE

Recommended Comments - See

Exhibit 10

*

The applicant must show by use of a map ($1" \cong 200'$) and by arrows for drainage that all toxic leach solutions will be contained.

The applicant must show diversions to direct overland flow away from the site are sized for a 50 year-24 hr or larger if specified by the Division of Environmental Health, Bureau of Water Quality so that overland flows will not wash out diversions, overflow ponds^{etc} and wash toxic leach solutions into the Dolaris River.

* The sedimentation pond must be large enough to not overflow from the 50 yr-24 hr event or larger if specified by DCH (above) for the watershed it will serve.

* The applicant must submit plans in detail for the pond and PVC liner. The applicant should provide a plan to monitor for leakage of the pond so that if a leak is detected it can be repaired. The applicant should show in detail the placement of the PVC liner. What thickness of PVC will be used and is the PVC resistant to the chemicals intended to be used in leaching.

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MR 2-11(c)	Site Preparation			They are processing the topsoil.
M-3(2)c	Trees			
MR 2-11(d)	Brush			
MR-2/11(c)	Topsail, Root Growth, Medium			How does the applicant intend to revegetate if Top soil, root growth media is used.
M-10(14)	Methods for Removal Amounts of Topsoil Removed Methods of Topsoil Protection			SEE COMMENTS
	"Soils--Except where slope or rocky rocky terrain make it impossible, all surficial materials, suitable as a growth medium, prior to any major excavation, shall be removed, segregated, and stockpiled according to its ability to support vegetation as determined by soil analysis and/or practical revegetation experience. The stockpiles shall be protected in such a manner as to minimize or prevent wind and water erosion, unnecessary compaction, and contamination by undesirable materials. Redistribution and surficial material after final grading shall be accomplished in such a manner as to promote revegetation success."			The applicant must show that the toxic tailings will be contained and effluents from tailings will remain on site.
M-3(2)c	Disturbed and Excess Materials			
MR 2-11(e)	Tailings, Waste and Reject Handling			
	Method of Placement and Containment			
	Stability and Erosion Control			
	Overburden			
	Method of Placement and Containment			
	Stability and Erosion Control			
	Toxic, Acid/Alkali Producing Materials			* Affected material is milled it should be tested prior to discarding to determine toxicity.

Soil person

See

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CITATION	REGULATION	INCLUDED IN PLAN	ADEQUATE	COMMENTS
MR-2/10.	Determination as Toxic, Acid, Alkali Testing Procedure and Results			
M-2 K(6)	"Toxic means any chemical or biological or adverse characteristic of the material involved which could reasonable be expect to negatively affect ecological or hydrological systems or could be hazardous to the public safety and welfare."			
M-10(6)	"Toxic Materials--All toxic or potentially toxic material, as defined by Rule M-2(k), shall be safely removed from the site or left in an isolated condition such that solid, liquid or gaseous toxic emissions to the environment are reasonably eliminated or controlled. Such isolation practices may include, but not be limited to, burial, subsurface injection, chemical precipitation or <u>neutralization</u> , and filtering. All appropriate regulations of the <u>Division of Health</u> must be complied with as well as Federal regulations."			According to Steve McNeel (State Health) they have had a pre-design conference with SNEI but haven't as yet given approval.
<div data-bbox="31 1250 178 1421" data-label="Text"> <p>122 {</p> </div> M-3(2)(c) MR-2/11(e)	Method of Placement and Containment Stability and Erosion Control The applicant must provide a cross section across the reclaimed area showing final configuration of reclaimed lands.			SOIL COMMENTS How will the tailings after neutralization be placed in the reclaimed area. Testing will need to be done prior to effluent being allowed to drain off site.

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M-3(2)	<u>RECLAMATION PLAN</u>			
M-10	<p>"The following reclamation standards are established where applicable for all work or activity required to be performed in accordance with reclamation plans approved subsequent to June 1, 1978. Mine workings abandoned prior to May, 1975, need not be reclaimed unless said workings are utilized for subsequent operations. Areas on which these standards are proposed to be non-applicable will be designated on the maps submitted by this operator in accordance with Rule M-6, and may be shown on supplementary ground or air photographs.</p> <p>Said standards shall apply to all operators covered by a mining and reclamation plan and variances to all portions herein will be considered on a site-specific basis by the Division and/or Board."</p>			
M-2i	<p>"Reclamation means actions performed during or after mining operations to shape, stabilize, revegetate, or otherwise treat the land affected in order to achieve a safe, stable, ecological condition and use which will be consistent with local environmental conditions."</p>			<p>Map of topography after regrading X-sections</p>

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CITATION	REGULATION	INCLUDED IN PLAN	ADEQUATE	COMMENTS
M-3(2)/MR 2,3	Land Uses			
M-3(2)(a)	Prior Land Uses <i>CATTLE GRAZING & MINING</i>			
M-3(2)(a)	Current Uses			
M-3(2)(b)	Potential Uses <i>CATTLE GRAZING & MINING</i>			
M-10(1)	<p>"Land Use--The operator shall abandon the area affected in a condition which is capable of supporting a postmining use that is compatible with probable land uses."</p>			
M-3(2)/MR 2-4	Existing Vegetation <input checked="" type="checkbox"/> Percent Cover			
M-3(2)/MR 2-5	Existing Soils <input checked="" type="checkbox"/> pH <input checked="" type="checkbox"/> Soil Lab Reference			
M-3(2)/MR 2-6	Site Elevation Site Abandonment			
M-10(2)	<p>"Public Safety and Welfare--The operator shall minimize hazards to the public safety and welfare following mining. Methods to minimize hazards shall include but not be limited to:</p> <p>(a) The closing of shafts and tunnels to prevent unauthorized <i>NA</i> or accidental entry.</p>			<p><i>Will the applicant fence the site to keep cattle from drinking pregnant beach solutions</i></p>

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M-10(2) (continued)	<p>(b) The disposal of trash, scrap metal and wood, unusable buildings extraneous debris and other materials incident to mining in a manner approved by the Division and in accordance with the Rules and Regulations of the Division of Health.</p> <p>(c) The plugging and capping of drill, core or other exploratory holes as set forth in Rule M-3(5). <i>NA</i></p> <p>(d) The posting of appropriate warning signs in locations where public access to operations is readily available.</p> <p>(e) The construction of berms, fences and/or barriers above high-walls or other excavations when required by the Division."</p> <p>Structure Removal</p>			<p><i>Haven't addressed where will trash be disposed.</i></p> <p><i>Need to post signs well there, be a gate in road?</i></p> <p><i>and to divert runoff around the disturbed area.</i></p> <p><i>How will the applicant keep cattle from drinking leach solutions? Will wildlife drink, or waterfowl be protected?</i></p> <p><i>need comment on structure removal, cleanup</i></p>
M-10(9)	"Structures and Equipment--All structures, rail lines, utility connections, equipment, and debris shall be removed from the surface prior to regrading and reclamation unless temporarily abandoned or approved by the Division for a continuing use."			

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M-3(2)(d) MR-2(f)	Procedures and Methods For Final Stabilization and Regrading			
MR-2(a)	Typical Cross-section of Regraded areas Specific Description of Regrading areas			Need a cross section of regraded areas.
M-10(10)	"Shafts and Portals--All shafts and portals shall be covered or closed and all trenches and small pits shall be backfilled or covered when a mine has been abandoned so as to eliminate any safety hazard.	NA		
M-10(7)	Roads and Pads--On-site roads and pads shall be reclaimed or stabilized when the operator determines that they are no longer needed for mining operations. The reclamation should include provisions for adequate surface drainage protection and unrestricted drainage crossings. When a road or pad is to be turned over to an approved continuing use, as determined by the operator, the operator shall turn over the property with adequate surface drainage, drainage structures, ditching, and in a general condition suitable for the continued use. Highwalls--In strip mining or open pit mining and in open cuts for pads or roadways all such highwalls shall be reclaimed by backfilling			How will applicant reclaim road. re grading, soils, veg need typical cross-section of reclaimed road. No highwalls? Show on x sections

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<i>Highwalls (continued)</i>	<p>against them or by cutting the wall back to achieve a slope angle of <u>45°</u> or less. Where the highwall is composed of solid rock; is designed to be stable utilizing benches, tie-backs, etc.; or, there is insufficient material reasonably available to backfill; or cutting the wall back would result in excessive damage to undisturbed land above the highwall; and taking into consideration suitable alternative safety measures; future land use, etc.; the Division may modify or waive the above requirements."</p>			
MR-2(e)	<p>Description of Maximum Slope Grades</p> <p>"Slopes--All waste piles, spoil piles, and fills shall, if possible, be regraded to a rounded configuration and they shall be sloped to minimize safety hazards and erosion. The angle of slope from the bottom to the top of the pile or fill can be greater than the surrounding terrain provided that the mass stability of the slope is assured and that the erosion of the slope is minimized by measures such as, but not limited to; terracing, surface drainage facilities, cross-slope ripping or scarifying and vegetation. In no case shall the slope of a pile or fill exceed the angle of repose of</p>			<i>Shown cross sections</i>

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Slopes (continued)	the material or such lesser slope as required by the Division considering such factors as: land use, material properties, revegetation potential or erosion control."			
MR-2(1) <i>may</i>	Description of Determining Stability of Reclaimed Fill Material			How will this be accomplished
MR-2(f)	Description of the Method of Drainage Control for Regraded Areas "Drainages--All natural channels and associated flood plains shall not be covered, restricted or rerouted by roads, pads, piles, fills or diversions unless specifically approved by the Division after a suitable hydrologic study and incorporating a sound hydraulic design. All drainage structures, sediment or flood control structures, spoil, ore, waste, fill material and debris must be removed from natural channels and flood plains before an operator abandons the site except where approved by the Division.			<i>m-3 (etc)</i> <i>It appears from the map provided the natural drainage to the southeast empties directly onto the mining area. Some type of flood control plan need be proposed.</i>

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M-10(13)	Dams--All major water impounding structures such as tailings, dams, water storage and supply dams, coal waste dams and major sedimentation control dams shall be reclaimed when abandoned so as to be nonimpounding, self-draining, mechanically stable and protected from erosion.			How big will the lined ponds be? Dam safety may need to be contacted.
M-10(3)	Impoundments--All evaporation, tailings and sediment ponds; spoil piles, fills, pads and regraded areas shall be self-draining and nonimpounding when abandoned unless previously approved as an impounding facility by a lawful state or federal agency."			Show & describe final reclamation of ponds
MR-2(10)	Topsoil Distribution Plans Specific Description of Spreading Topsoil/ Growth Medium Approximate Thickness of Topsoil/Growth Medium			What root growth medium will be used
MR-2(3)	Description of Surface Preparation			
MR-2(1)	Revegetation Plans Who Will Complete Revegetation? Seed Bed Preparation			no topsoil stipulated. Test plots maybe? (not required - MA)

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<i>Soil person</i> MR-2(1)	Description of Soil Treatments to Aid Revegetation			<i>From test plots</i>
M-10.12	"Practical land treatments may include but not be limited to: scarifying, mulching, fertilization, irrigation, chisel plowing, harrowing and the introduction of soil mycorrhiza.			<i>Well neutralized mulch provide rocky with</i>
M-10.12	Description of Method for Testing Soil to Support Vegetation Fertilization Plans			
MR-2-2.	Mulch Type Rate/Acre			
	Seeding			
M-3(2)(e())	"A planting program as best calculated to revegetate the land affected. Where there is no original protective cover, an alternate practical procedure should be proposed to minimize or control erosion or siltation. When applicable, the objective in revegetation should be to stabilize the land as quickly as possible after it has been disturbed in order to achieve permanent and protective vegetative cover. Non-noxious native plants that will give a quick, permanent, protective cover and enrich the soil shall be given priority."			<i>Since BLM is surface managing agency have them provide a letter ^{for BLM} concurring with their rereg plan - Otherwise, I find 4#/acre inadequate and would call for test plots to prove that their plan is adequate. So choice 1. letter from BLM OR 2. Test plot plans.</i>

Mary Ann

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CITATION	REGULATION	INCLUDED IN PLAN	ADEQUATE	COMMENTS
MR 2-1	Description of Seeding Method			
MR 2-3	Justification of Seed Mix			
M-10(12)	<p>"Revegetation--Where possible, a self-sustaining vegetative cover consisting of non-noxious perennial plants shall be established by the operator subsequent to final grading on the entire area affected. Plants shall be a diverse mixture of grasses, shrubs, forbs and where potential for forestation exists, trees; the mixture may include both native and introduced species. Revegetation shall be performed using professionally accepted methods such as seeding, transplanting or propagating by cuttings.</p> <p>(1) The species selection shall reflect the post-mining land use as set forth in Rule M-10(1)</p>			
MR-2 3.	U. S. Soil Conservation Service			
MR-2 3.	Test Plots Use of Seed Mix			maybe?
MR-2 3.	Description of Application Location/Facing (bearing) Rate Per Acre (PLS) Species Mix Per Location Season to be Planted Maintenance/Monitoring			

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MR-2/5.	Description of Irrigation Methods To Establish Vegetation Inspections Frequency Purpose Livestock Grazing Fencing Vegetation Protection			
M-3(2)(f)	Reclamation Schedule			The applicant must <u>show!</u>
MR-2 8.	Estimated Time for Construction			
M-3(2)f	Estimated Time for Interim Reclamation Estimated Duration of Mining Operation A Time Table for the Accomplishment of Each Major Step in Reclamation Plans			
M-5	Reclamation Surety Estimate Estimate Based on Reclamation Plan Cleanup and Removal of Structures Grading and Contouring Stabilization Labor Safety and Fencing Monitoring			Provide estimate form
M-3	Standard of Reclamation Success "(2) Revegetation shall be deemed to be accomplished and successful when: (a) Species intended for revegetation by this Rule have achieved a surface cover of at least 70% of the representative vegetative communities surrounding the mine. Surrounding vegetative cover levels shall be			

Mary Ann

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INCLUDED				
CITATION	REGULATION	IN PLAN	ADEQUATE	COMMENTS
(a) (continued)	<p>determined by the operator using professionally accepted inventory methods and be approved by the Division.</p> <p>(b) The vegetation initiated on the area affected has survived for at least three (3) growing seasons, is evenly distributed, and is not supported by irrigation or continuing soil amendments.</p> <p>(3) Exceptions to Part 12 may be granted by the Division for areas which consist of solid rock outcrops and it is demonstrated by the operator that sufficient surficial soil does not exist for covering said outcrops. Test plots established by the operator in consultation with the Division shall demonstrate after all practical land treatments have been attempted that the revegetation standards are not attainable."</p>			
M-10 MR-8	Commitment to Rule M-10.			